

WHAT IS CLAIMED IS:

1. A motor comprising:

a stator;

5 a rotor rotatably disposed around the stator; and

a rotor cup having cooling-holes formed at the bottom part thereof for allowing external air to flow into the inside of the rotor cup therethrough, and lower blades formed at the bottom part thereof for generating a blowing force, the rotor
10 being fixed to the rotor cup at the inner circumference thereof,

wherein the lower blades and the cooling-holes are formed such that each of the lower blades and the cooling-holes is at a prescribed angle to the radial direction of the rotor cup.

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2. The motor as set forth in claim 1, wherein each of the lower blades has an acute sloping angle to the line extended in the rotating direction of the rotor cup and perpendicular to the radial direction of the rotor cup.

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3. The motor as set forth in claim 1, wherein the rotor is provided at the upper side thereof with upper blades for supplying external air to the upper part of the rotor when the rotor is rotated.

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4. The motor as set forth in claim 1, wherein the rotor cup is provided at the circumference thereof with vents for allowing the air introduced into the inside of the rotor cup to be discharged therethrough.

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5. A motor comprising:

a stator;

a rotor rotatably disposed around the stator; and

10 a rotor cup having cooling-holes formed at the bottom part thereof for allowing external air to flow into the inside of the rotor cup therethrough, and lower blades formed at the bottom part thereof for generating a blowing force, the rotor being fixed to the rotor cup at the inner circumference thereof,

15 wherein the rotor is provided at the upper side thereof with upper blades for supplying external air to the upper part of the rotor when the rotor is rotated.

20 6. The motor as set forth in claim 5, wherein the upper blades are formed such that each of the upper blades is at a prescribed angle to the radial direction of the rotor.

25 7. The motor as set forth in claim 6, wherein each of the upper blades has an acute sloping angle to the line extended in the rotating direction of the rotor and

perpendicular to the radial direction of the rotor.

8. The motor as set forth in claim 5, wherein the rotor cup is provided at the circumference thereof with vents for allowing the air introduced into the inside of the rotor cup to be discharged therethrough.

9. A motor comprising:

a stator;

a rotor rotatably disposed around the stator; and

a rotor cup having cooling-holes formed at the bottom part thereof for allowing external air to flow into the inside of the rotor cup therethrough, and lower blades formed at the bottom part thereof for generating a blowing force, the rotor being fixed to the rotor cup at the inner circumference thereof,

wherein the rotor cup is provided at the circumference thereof with vents for allowing the air introduced into the inside of the rotor cup to be discharged therethrough.

10. The motor as set forth in claim 9, wherein the vents are disposed below the rotor.

11. The motor as set forth in claim 9, wherein the vents are arranged in large numbers at the circumference of the rotor

cup in the circumferential direction.

12. The motor as set forth in claim 9, wherein the ratio of the whole areas of the cooling-holes to the whole areas of the vents is 2:1 to 4:1.

13. A washing machine comprising:

a case;

an outer tub mounted in the case;

an inner tub rotatably mounted in the outer tub;

a rotating shaft connected to the inner tub; and

a motor mounted to the outer tub such that the motor is connected to the rotating shaft,

wherein the motor comprises:

a rotor cup fixed to the rotating shaft such that the rotor cup is rotated along with the rotating shaft, the rotor cup having cooling-holes formed at one side thereof for allowing external air to flow into the inside of the rotor cup therethrough, and lower blades formed at one side thereof for generating a blowing force;

a rotor fixed to the inner circumference of the rotor cup; and

a stator disposed in the rotor cup while the stator is spaced apart from the rotor by a prescribed distance of air gap, the stator fixed to the outside of the outer tub, and

wherein the cooling-holes and the lower blades are formed such that each of the lower blades and the cooling-holes is at a prescribed angle to the radial direction of the rotor cup.

5 14. The machine as set forth in claim 13, wherein each of the lower blades has an acute sloping angle to the line extended in the rotating direction of the rotor cup and perpendicular to the radial direction of the rotor cup.

10 15. The machine as set forth in claim 13, wherein the rotor is provided at the upper side thereof with upper blades for supplying external air to the upper part of the rotor when the rotor is rotated.

15 16. The machine as set forth in claim 13, wherein the rotor cup is provided at the circumference thereof with vents for allowing the air introduced into the inside of the rotor cup to be discharged therethrough.

20 17. A washing machine comprising:
a case;
an outer tub mounted in the case;
an inner tub rotatably mounted in the outer tub;
a rotating shaft connected to the inner tub; and
25 a motor mounted to the outer tub such that the motor is

connected to the rotating shaft,

wherein the motor comprises:

a rotor cup fixed to the rotating shaft such that the rotor cup is rotated along with the rotating shaft, the rotor cup having cooling-holes formed at one side thereof for allowing external air to flow into the inside of the rotor cup therethrough, and lower blades formed at one side thereof for generating a blowing force;

a rotor fixed to the inner circumference of the rotor cup; and

a stator disposed in the rotor cup while the stator is spaced apart from the rotor by a prescribed distance of air gap, the stator fixed to the outside of the outer tub, and

wherein the rotor is provided at the upper side thereof with upper blades for supplying external air to the upper part of the rotor when the rotor is rotated.

18. The machine as set forth in claim 17, wherein the upper blades are formed such that each of the upper blades is at a prescribed angle to the radial direction of the rotor.

19. The machine as set forth in claim 18, wherein each of the upper blades has an acute sloping angle to the line extended in the rotating direction of the rotor and perpendicular to the radial direction of the rotor.

20. The machine as set forth in claim 17, wherein the rotor cup is provided at the circumference thereof with vents for allowing the air introduced into the inside of the rotor cup to be discharged therethrough.

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21. A washing machine comprising:

a case;

an outer tub mounted in the case;

an inner tub rotatably mounted in the outer tub;

10 a rotating shaft connected to the inner tub; and

a motor mounted to the outer tub such that the motor is connected to the rotating shaft,

wherein the motor comprises:

15 a rotor cup fixed to the rotating shaft such that the rotor cup is rotated along with the rotating shaft, the rotor cup having cooling-holes formed at one side thereof for allowing external air to flow into the inside of the rotor cup therethrough, and lower blades formed at one side thereof for generating a blowing force;

20 a rotor fixed to the inner circumference of the rotor cup; and

a stator disposed in the rotor cup while the stator is spaced apart from the rotor by a prescribed distance of air gap, the stator fixed to the outside of the outer tub, and

25 wherein the rotor cup is provided at the circumference

thereof with vents for allowing the air introduced into the inside of the rotor cup to be discharged therethrough.

22. The machine as set forth in claim 21, wherein the
5 vents are disposed below the rotor.

23. The machine as set forth in claim 21, wherein the vents are arranged in large numbers at the circumference of the rotor cup in the circumferential direction.

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24. The machine as set forth in claim 21, wherein the ratio of the whole areas of the cooling-holes to the whole areas of the vents is 2:1 to 4:1.